

## **ABSTRACT**

A semi-permanent reference electrode for use in monitoring and measuring metals in field applications, such as cathodic protection. This electrode has an outer electrode body with a cap and porous plug. The outer electrode body is filled with a fill solution which is a saturated salt solution formed from a solid salt. The solid salt is hygroscopic with a low deliquescence point. An opening is provided in the cap to allow moisture into the outer electrode body to combine with the fill solution to maintain the saturated salt solution in the field. This saturated salt solution must maintain a constant pH for use in the semi-permanent reference electrode. A wire is used within the outer electrode body which connects to a voltmeter. This voltmeter measures the potential difference between the reference electrode and the field component of interest, which can include pipelines, storage tanks and bridges.

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